To the Right Honourable the LORDS COMMISSIONERS of the ADMIRALTY.

The humble Memorial of THOMAS BRIDGE of Bread-ſtreet, London, Merchant,

Sheweth,

THAT your memorialiſt, and Dr. Henry Taylor of the city of Quebec in North America, having-taken into conſideration the ſurprizing effects the Spruce Beer of that country had on the Soldiers and Seamen, when they came there, almoſt emaciated with the Scurvy; and alſo, the effect it has always had in keeping the Seamen in health, when on the Newfoundland ſtation. And taking alſo the opinion of Dr. John Fothergill and other eminent men of the faculty, who joined in thinking, that if an Eſſence of the Spruce could be made to contain all its virtues, and that could be made into well-fermented Beer, that it would be the beſt, and moſt efficacious preventative, and moſt ſovereign remedy for the Scurvy.

That your Memorialiſt in conſideration of ſuch opinions did join the ſaid Dr. Taylor, and after great expence and pains, did make an Eſſence ſo perfect that one pound and a quarter will make 63 gallons of double Spruce Beer, and yet it retains all the native virtues and flavour of the freſh-cut Spruce; and his Majeſty was pleaſed to grant them his Royal Letters Patent for the ſame.

That your Memorialiſt did in the year 1772, by the advice of many gentlemen in the Army, the Navy, &c. appply to the then Right Honourable Lords of the Admiralty, offering a ſmall quantity of

 the

the ſaid Eſſence by way of trial, which their Lordſhips were pleaſed to accept. And ſome of it was ſent on board the Rainbow man of war, Captain Collingwood, going to the Coaſt of Guinea, whoſe report I crave leave to ſubjoin.

Extract of a Letter from Captain COLLINGWOOD of the Rainbow Man of War to Mr. STEPHENS, Secretary of the Admiralty, dated September 8, 1773.

"SIR,

"I deſire you will acquaint their Lordſhips, that "I complied with their orders of the 6th of Novem- "ber, 1772, reſpecting Spruce Beer made from the "Eſſence of Spruce and Molloſſes, and followed the "directions which the Commiſſioners of the Victual- "ing ſent me, to make them into Beer, and ſerve "the ſhip's company; but as I am no judge of its "phyſical qualities, I thought proper to ſend the "opinion of the ſurgeon thereon as well as my own. "My opinion of Spruce Beer is, that it is a good "wholeſome drink, and that the Eſſence of Spruce "may be very ſerviceable to people in the Scurvy."

The Surgeon's opinion is as follows.

"I am convinced from experience, that Spruce "Beer is a very great antiſcorbutic, for during two "voyages that I have been at Newfoundland, where "his Majeſty's ſhips are ſupplied with Spruce Beer, "I never ſaw one ſcorbutic patient. I therefore have "no doubt, but that the Eſſence of Spruce prepared "by the Patentee, when made into well fermented "Beer as they have directed, will prove no leſs an "antiſcorbutic, as it ſeems to poſſeſs fully, the entire "phyſical properties of the freſh cut Spruce; but

"in

" in this ſhip I do not think we could make a fair " trial of it laſt voyage, becauſe I have been on the " coaſt of Africa two voyages before, when our peo- " ple during both of them were very ſickly, and not " one ſcorbutic caſe amongſt them.

" However I am of opinion the Eſſence of Spruce " is an excellent diſcovery or preparation, and that " it would be very ſerviceable in the Navy."

That your Memorialiſt, having heard of the return of the Rainbow, did inform their Lordſhips that he had made a farther quantity of the eſſence, and begged to know if their Lordſhips would be pleaſed to make any farther experiment thereon, and he was informed, that *at preſent* they had no farther occaſion for his eſſence.

That your Memorialiſt did then apply to the Gentlemen, Huſbands, and Owners of the ſhips in the ſervice of the Honourable Eaſt India Company, ſeveral of whom took ſome of the Eſſence for the uſe of their ſhips, and from the amazing good effect it produced on board thoſe ſhips, it gained univerſal reputation in that ſervice.

That your Memorialiſt, emboldened by this ſucceſs, did in the year 1779, once more trouble their Lordſhips with an offer of the Spruce Beer, when their Lordſhips were pleaſed to order me to collect certificates from ſuch gentlemen in the India ſervice as had uſed it, and were then in London, and lay them before the Commiſſioners of ſick and wounded Seamen: in conſequence of ſuch orders, I did procure the following.

First. Extract of a Letter from Captain JOHN LEWIS, on board the Talbot Indiaman, dated Cape of Good Hope, July 10, 1775, to John Raymond, Eſq.

" We have now refitted, and propoſe to ſail to-
" morrow in company with the Nottingham, Captain
" Stoakes, who arrived here a few days before us;
" they have buried a great number of their people,
" we have been lucky enough not to loſe a ſingle
" man, and have had very few ſick during the paſ-
" ſage, and now not one, which we impute to the
" ſpruce beer, which the people became remarkably
" fond of, and generally drank about forty gallons
" per day. JOHN LEWIS."

NB. The Nottingham had no Spruce on board.

Certificate of JAMES COLLY, Surgeon of the Talbot, Captain Raymond Snow Commander.

" Theſe are to certify, that the ſhip Talbot, Captain Snow, in the ſervice of the Honourable Eaſt India Company, on her laſt voyage to India, was ſupplied with a quantity of Eſſence of Spruce to make Spruce Beer for the uſe of the Seamen under my inſpection.

It was brewed into beer in the following manner. I ordered the Eſſence and Moloſſas and a little yeaſt to be put into a ſmall tub, with a little water to dilute it, and then put into a caſk and filled it up with water, and in two or three days it was fit for uſe. There is ſo little trouble or difficulty in brewing, that after a few times I lefr it to any of the ſhip's crew to brew, and we had good freſh beer all the reſt of the voyage; we uſed it in the quantity of about a quart per man per day, with which they were well ſatisfied. And I found the men kept their healths very well

well and became extremely fond of it; we found that it fermented well in all the climates we went through, and kept ſo well that we had not a ſingle caſk went ſour the whole voyage, though we paſſed the Line and were a long time in very hot and bad weather. On the whole, I do believe it to be a very good, wholeſome beer, and excellently well calculated to ſupply a ſhip's company in long voyages, as it certainly is the greateſt preſervative from the ſcurvy I ever met with, as I have in former voyages uſed moſt of the preſervatives, ſuch as malt, wort, decoction of bark, acid, &c. but always had the ſcurvy amongſt the crew more or leſs. But in our laſt voyage, when we were ſupplied with Spruce Beer, notwithſtanding we had very hot and bad weather, and tedious paſſages all over India, we had not the leaſt appearance of the ſcurvy.

Signed JAMES COLLY,
Surgeon of the Talbot.

NB. The men were ſo fond of it, that when they came to Ireland they preferred it to ſmall beer."

" I have examined the above certificate and do believe it to be ſtrictly true, and am of opinion that Spruce Beer, as uſed on board the Talbot Indiaman, of which I was commander, was of the greateſt ſervice in hindering the appearance and progreſs of the ſcurvy, and do recommend it for that purpoſe.

Signed Raymond Snow,
London, May 9, 1779."

Certificate of Dr. HENRY DUNN, Surgeon of the Hampſhire Eaſt Indiaman, Captain THOMAS TEMBRELL Commander.

" I do hereby certify, that I did receive on board the Hampſhire, Captain Thomas Tembrell Commander, in the Eaſt India Company's ſervice, a quantity of Eſſence

Eſſence of Spruce to make Spruce Beer under my inſpection.

I began to uſe it as ſoon as I perceived the ſcurvy made its appearance amongſt the men, and I found it fully anſwered my expectation in ſtopping the progreſs of that diſorder, and preventing its appearance on the reſt of the crew. I had it brewed in the following manner:

I mixed the melaſſes and eſſence with a little grounds of porter, or any other beer, and ſome water to dilute it, and fill the cask up with water, and let it work two or three days and it was quite fit for uſe. The yeaſt from the freſh brewed beer anſwered afterwards; I gave it the men from a quart to two quarts per day, and they were ſoon very fond of it; we generally had three casks in uſe at a time, one older than the other, and found that it kept extremely well in all the climates we paſſed, not having any go ſour, but drank freſh and good the whole voyage while we had any left.

And I do believe it to be a very wholeſome good liquor, and an excellent antiſcorbutic, and very well adapted for the ſupply of a ſhip's company at ſea in all climates.

Signed HENRY DUNN.

I have examined the above, and believe it to be ſtrictly true. Signed THOMAS TIMBREL."

Abſtract of a letter from Capt. Mowtray of the Warwick man of war, to Philip Stephens, eſq. Secretary to the Admiralty, dated Auguſt 5, 1778.

" I think it my duty to let you know how much I am obliged to Capt. Newte of the Ceres Indiaman (as is his country) for his goodneſs in ſupplying me with Spruce Beer and Eſſence of Spruce, which has enabled me

me to give the men in the ſcurvy a quart of Spruce Beer a day for 12 days, which has ſaved the lives of a great many."

Certificate of Captain William Applegarth, Commander of the Europa Indiaman.

"Theſe are to certify, that I did receive on board the Europa, in the ſervice of the Honourable Eaſt India Company, whereof I am commander, a quantity of Eſſence of Spruce to make Spruce Beer for the uſe of the Seamen and Soldiers. I gave the men a pint of beer per day per man at dinner, and they kept their healths remarkable well, and we had not one ſcorbutic caſe the whole voyage. It is brewed with very little trouble, and keeps well in all climates; and I am convinced it is a very wholeſome good Beer, and a moſt excellent antiſcorbutic, and muſt be very beneficial to ſhip's crews crews in long voyages.

Signed WILLIAM APPLEGARTH."

Certificate of Captain THOMAS NEWTE, Commander of the Ceres Indiaman.

This is to certify, that I ordered a quantity of Spruce to be ſent on board the Ceres Indiaman, on my laſt voyage to India, in the years 1777 and 1778, which was made into Beer, and conſtantly given to my ſhip's company at the rate of a pint per man per day. I can with great truth aſſert, that its effects were very ſalutary, eſpecially as an antiſcorbutic. I was eighteen months in performing the voyage, and the greateſt part of that time at ſea, yet I loſt only two men. In my paſſage home from the iſland of St. Helena, I had ſtill greater proofs of its excellency; Captain Moutray, of his Majeſty's ſhip Warwick, acquainted me that many of his people were afflicted

afflicted with that dreadful diſorder the Scurvy; in conſequence of which, I ſent him a ſufficient quantity of Spruce to give each man a pint a day until they arrived at Portſmouth, which ſtopped the progreſs of the Scurvy, and enabled him to bring moſt of them to England, where they recovered.

Signed THOMAS NEWTE.
Commander of the Ceres Indiaman.

London, Aug. 30, 1779."

Copy of a Letter from Captain ROBERT MAW, Commander of the Duke of Kingſton Eaſt Indiaman.

SIR,

In conſequence of your application to me relative to the efficacy of the Eſſence of Spruce, which you ſupplied the ſhip Duke of Kingſton with on her late voyage to Bengall; I am to inform you that I made uſe of it during the whole time of my being at ſea, giving to each man one pint in the morning, which anſwered according to the account given me by Captain Raymond Snow. The Scurvy never made its appearance, notwithſtanding I was thirteen weeks on my paſſage from Madraſs to the Cape of Good Hope, and in that time experienced very bad weather; it is to be underſtood the Beer was made according to directions given to my ſurgeon. I am. &c.

ROBERT MAW.
New Inn, Sept. 1, 1779."

Copy of a Letter from Captain CHARLES MEARS, Commander of the Egmont Eaſt Indiaman.

"Blackheath, Auguſt 30, 1779.

SIR,

I have the favour of yours of the 27th inſtant, deſiring I will ſay what I know concerning the Eſſence of

of Spruce. I can with great truth ſay, that my people were exceeding fond of the Beer made from it, and that it was very eaſy to make it; the ſhip's ſteward had the management of it, and with two 60 gallon caſks made on purpoſe, he kept a conſtant ſucceſſion of it; but whether it was particularly beneficial to the healths of the Seamen, I muſt refer you to my ſurgeon Mr. Michael Reiley, who may be heard of at Mr. Plunkett's, Chapple-ſtreet, May-fair. The Seamen were very healthy all the voyage, and I think it very reaſonable to ſuppoſe, that the Spruce Beer greatly contributed in keeping them ſo. I had the pleaſure of giving Sir Edward Hughes at St. Helena as much Eſſence and Moloſſes as ſerved to make Beer for his own and his officers table from thence to England, and have often heard him ſpeak of it in very high terms, and ſay that he hoped it would ſoon be introduced into the Navy. I am, &c.

CHARLES MEARS, Commander of the Egmont.

Copy of a Letter from Mr MICHAEL REILEY, Surgeon of the Egmont, Captain CHARLES MEARS.

SIR,

In compliance with your requeſt and my duty to the public, I think your Spruce Beer a happy invention, it being a good liquor and powerful antiſcorbutic; and by giving the men a pint a day, of which they were very fond, it preſerved them from all Scorbutic complaints during the voyage. It was brewed by the ſhip's ſteward, and is attended with no manner of inconvenience, will keep for any length of time needful in any climate whatever. I do not only recommend, but look upon it as a very valuable acquiſition to ſhips on long voyages. I am, &c.

Signed MICHAEL REILEY.
Surgeon of the Egmont.

Certificate of Mr. THOMAS BRAE, Surgeon of the Ceres Indiaman.

Theſe are to certify, that the ſhip Ceres, in the ſervice of the Eaſt India Company, was ſupplied with a quantity of Eſſence of Spruce to make Spruce Beer for the uſe of the Seamen. We began to uſe it when we had been out about two months, and continued to ſupply the men with from a pint to a quart a day per man for the voyage; and the men were in general very fond of it, and kept their healths remarkably well; and I am convinced from experience, it is an exceeding good wholeſome Beer, and one of the beſt antiſcorbutics yet diſcovered; it was brewed with very little trouble, and keeps extremely well in all climates we went through.

Signed THOMAS BRAE.

Certificate of JOHN EVANS, Surgeon of the Duke of Kingſton Indiaman.

I do hereby certify, that I have had a quantity of Eſſence of Spruce ſent on board to make Spruce Beer for the uſe of the Seamen in both my laſt voyages to India; and I do aſſert that I never met with any thing ſo efficacious in preſerving the healths of the men. We gave it in the quantity of a quart a day per man, and both officers and men were very fond of it; and we had not one ſcorbutic caſe except one man we took on board in India almoſt emaciated with the Scurvy, and he was ſoon cured by drinking the Spruce Beer, and we brought him home in good health. It is brewed with very little trouble, and kept well in all climates we paſſed, and I do believe it to be a very wholeſome good beer, and excellently calculated

calculated to ſupply ſhips at ſea, as we brewed it every four or five days without any inconvenience.

Signed JOHN EVANS.

I have examined the above certificate, and believe it to be ſtrictly true. JUSTINIAN NUTT,
Commander of the Duke of Kingſton.

Copy of a Letter from D. James Hutton, Surgeon of the Earl Mansfield, Captain Frazer, and witneſſed by him.

SIR,

In compliance with your requeſt, and in duty to the public, I do hereby declare, that during my laſt voyage in the Earl of Mansfield, William Frazer, Eſq. Commander, to China, when the ſhip's company were attacked and reduced to the greateſt diſtreſs by the ſcurvy; I found the moſt happy effects to ariſe from the uſe of your Eſſence of Spruce, as only one man, who had been previouſly weakened by a flux of ſome weeks ſtanding, out of upwards of ſeventy who were afflicted, fell a victim to this diſeaſe, which raged with great violence for ſeven weeks. The antiſcorbutic powers of the Spruce Beer were remarkable; many it cured, in many more it prevented its farther progreſs, and even thoſe who were reduced to the laſt and moſt painful ſtage of the diſeaſe, had their complaints relieved, and were enabled to prolong, with ſome degree of comfort, an exiſtence which muſt have been otherwiſe wretched, till our arrival at the cape of Good Hope, after a paſſage of eighteen weeks, and put an entire ſtop to the ravages of this diſeaſe. Upon the whole, I regard it in this inſtance to have been the principal means, under God, of preſerving many valuable lives; and I ſincerely hope, that future experience will confirm

my ſentiments in conſidering Spruce Beer not only as a moſt excellent and efficacious preventative from the Scurvy, but in a powerful manner reſtraining the violence, and preventing the fatality that ſo generally attends that diſorder after it makes its appearance.

WILLIAM FRASER, Commander of the Earl of Mansfield.

JAMES SUTTON, Surgeon.

Copy of a Certificate from JOHN MOUAT, Eſq. Purſer of his Majeſty's Ship the Warwick,—— COLLINS, Eſq. Commander.

Theſe are to certify, the Honourable the Commiſſioners for Victualling his Majeſty's Navy, that there were received on board his Majeſty's ſhip Warwick, from Mr. Thomas Bridge, by order of Sir Edward Hughes, to Captain Richard Collins, thirty-nine pots of Eſſence of Spruce, containing one pound and one quarter of a pound each, and thirteen hundred, one quarter and eight pounds of Moloſſes for the uſe of the ſhip's company, in caſe of the appearance of the Scurvy taking place amongſt them, which was all made uſe of during the paſſage to St. Helena and home, that was between the 8th of March and the 15th of December 1779, and was allowed by the Surgeon and reſt of the officers to have been a great means of eradicating the aforeſaid diſorder, which ſeveral times threatened us in the courſe of the ſaid voyage.

Given under my hand on board his Majeſty's ſaid ſhip Warwick in Portſmouth harbour, the 30th of January, 1781.

Signed JOHN MOUAT.

Certificate

Certificate of ſundry Gentlemen, Huſbands of Ships in the ſervice of the Honourable the Eaſt India Company.

We, whoſe names are hereunto ſubſcribed, do certify that ſeveral of our ſhips have been ſupplied with Eſſence of Spruce to make Spruce Beer, and that our commander, ſurgeons, and officers, have ſtrongly recommended it as a very wholeſome good beer, and an excellent ſcorbutic, and that the crews were extremely healthy on thoſe voyages that the ſhips were ſupplied with it.

Signed by Sir CHALES RAYMOND,
ANDREW MOFFATT, Eſq.
WILLIAM DENT, Eſq.
H. H. PELLY, Eſq.
ROBERT WILLIAMS, Eſq.
JOHN RAYMOND, Eſq.

That, after the Commiſſioners of Sick and Wounded had examined theſe certificates, they were pleaſed to make the following report on the 14th of September 1779.

To Philip Stephens, Eſq.

Office of Sick and Wounded Seamen,
September 14, 1779.

SIR,

In return to your letter of the 19th of laſt month, accompanied by the incloſed petition to the Right Honourable the Lords Commiſſioners of the Admiralty, from Thomas Bridge, Patentee of the Eſſence of Spruce, repreſenting that he had diſcovered a proceſs of extracting and reducing the properties of the Spruce Tree into an Eſſence,

from which, with Moloſſes, a wholeſome beer may be made, and of great uſe in preventing the Scurvy, and deſiring it may be introduced into the Navy, as it may be furniſhed as cheap as the ſmall beer ſupplied to the King's ſhips; and in obedience to their Lordſhips directions, that we ſhould take the ſame into conſideration, and report our opinion what may be proper to be done thereon; we deſire you will pleaſe to acquaint their Lordſhips, that we have had Spruce Beer brewed from ſome of the ſaid extract under our inſpection, and find the proc ſs eaſily managed, and the Beer a very good drink. That we have had a variety of evidence of its good effects laid before us, and are of opinion that it may very properly be introduced into the Navy in ſhips going long voyages, or on long cruizes; and as the proceſs of fermentation can be carried on at ſea in any climate, we would humbly propoſe that the ſimple ingredients ſhould be provided by the Victualling Board, and delivered to the purſers, and be conſidered as part of the victualling ſtores.

With reſpect to the price at which Beer may be made of the Eſſence of Spruce, as the price of moloſſes is fluctuating, that cannot be preciſely aſcertained, which we mention, as the petitioner ſeems to think it will be about equal to the price of ſmall beer for the Navy, but we humbly conceive it will not be ſo high in general as to be any object to affect the ſupply of it to the King's ſhips. We are, &c.

Signed J. Bell.
Waller Farquharson,
Robert Lulman.

That,

That, in conſequence of the above, I did receive orders from their Lordſhips to attend the Victualling Board, to fix with them what quantity it would be neceſſary to allow each ſhip according to the number of men, and length of the voyage; that, in conſequence of ſuch their Lordſhip's orders, the Commiſſioners of Victualling did make the following report.

Victualling Office, October 8, 1779.

SIR,

We received your letter of the 20th of September laſt, incloſing a Memorial which the Right Honourable the Lords Commiſſioners of the Admiralty had received from Thomas Bridge, repreſenting that he had diſcovered a proceſs for extracting and reducing the properties of the Spruce tree into an Eſſence, from which, with moloſſes, a wholeſome Beer may be made, which may be of great uſe in preventing the Scurvy, and deſiring that it may be introduced into the Navy; and acquainting us of their Lordſhips having directed the Commiſſioners for Sick and Hurt to conſider and report their opinion what may be proper to be done thereupon; and they having informed their Lordſhips that they are of opinion it may be very properly introduced into the Navy in ſhips going long voyages or on long cruizes; and as the proceſs of fermentation can be carried on at ſea in any climate, have propoſed that the ſimple ingredients ſhould be provided by our board, and delivered to the purſers as part of the victualling ſtores; alſo ſignifying their Lordſhips directions to us, to propoſe what quantities of the ſaid ingredients it may be proper to ſupply to a ſhip of each claſs on the ſervices therein mentioned. Agreeable to their Lordſhips directions, we have made the following calcu-

lations

lations of the quantity for each rate, which we think a full proportion conſidering the ſtowage the Moloſſes will require, viz.

Rate.	Men.	For long voyages. Eſſence Pounds	Moloſſes C. qr. lb.	1 month. Yeaſt Pounds	For channel cruizes. Eſſence Pounds	Moloſſes C. qr. lb.	14 days. Yeaſt.
1ſt.	850	127	36 1 20	8½	63½	18 0 24	4¼
2	750	112	32 0 16	7½	56	16 0 8	3½
3	600	90	25 2 24	6	45	12 3 12	3
4	550	52	15 0 0	3½	26	7 2 0	1½
5	300	45	12 3 12	3	22½	6 1 25	1½
6	200	30	8 2 0	2	15	4 1 4	1
Sloops	100	15	4 1 4	1	7½	2 0 16	1

But at the ſame time we beg leave to remind their Lordſhips of our letters of the 4th and 11th of Auguſt laſt, reſpecting the utility of the Eſſence of Wort, which is more ſimple in its proceſs, takes up leſs ſtowage, and is productive of more ſalutary ends, we are returning the papers which came incloſed.

Sir, your moſt humble ſervants,

JONAS HANWAY,
J. BATES,
A. CHORLEY.

That, in conſequence of this laſt report, I heard no more of their Lordſhips.

That your Memorialiſt ſtill finding that the good effects of the Spruce Beer grew more and more conſpicuous, ſo much ſo that every ſhip in the ſervice of the Honourable the Eaſt India Company is now ſupplied with it, and that it was ſpoke of with univerſal credit in that ſervice, and being apprehenſive that unfavourable ſentiments had been introduced to their Lordſhips, which had cauſed its hindrance, he did crave leave to have a copy of the ſaid reports, when to his great ſurprize he found thoſe from the Commiſſioners

miſſioners of Victualling ſo very unfavourable, and, I moſt humbly crave leave to ſay, founded in error.

That your Memorialiſt humbly hopes he may be permitted to ſtate a comparative view of the difference between the Eſſence of Malt and the Eſſence of Spruce, which he doubts not will convince your Lordſhips, that no liquor whatſoever can be better calculated to ſupply a ſhip's crew in all climates than the Spruce Beer, nor is it poſſible to have any thing that will take leſs ſtowage, particularly to ſupply both the Indias

Spruce Beer from the Eſſence of Spruce.

As to the efficacy of Spruce Beer in preventing, ſtopping the progreſs and cure of the ſcurvy, I beg to refer to the certificates hereto annexed, or numbers more that I can get if it is required. This Beer anſwers both as beverage and medicine, and conſequently is a great ſaving to Government, as it does not coſt near half the price of ſpirits; but if half the uſual quantitiy of ſpirit was given, as is uſual, and one quart of Spruce Beer, the ſaving would then be about 106l. per month per a firſt rate, and the ſeamen would be pleaſed and their health preſerved.

Proceſs of making Spruce Beer.

Pump out of the butt 8 gallons of water, pour the ingredients in, ſtir it with a ſtick to mix it, and let it ſtand [redacted] days, It is done.

Pour

One Ounce of Eſſ. Spruce will make Three gall. of Beer Stronger than the Common Small at 14/ P. Gall.

Malt Beer from the Eſſence of Wort.

As to the efficacy of Malt Wort, I have never heard it ſpoke of by any perſon that has uſed both as in any degree equal to Spruce, and it does not anſwer any purpoſe as a beverage, but a ſimple medicine, and conſequently an additional expence to Government, as they have their uſual quantity of ſpirit, &c.

Proceſs of making Wort of the Eſſence of Malt.

Break the Eſſence into ſmall pieces, and pour upon it hot or boiling water, and ſtir it about till it is diſſolved.

One pint of the Eſſence to one gallon of water will make moderately ſtrong and pure Wort: it may be made ſtronger or weaker, by adding more or leſs Eſſence.

But if water ſhould ever be much wanted, half an ounce of the Eſſence of ſpruce, with a little honey, ſyrup or moloſſes, given as a medicine, will be found to have a very powerful effect in ſcorbutic and bilious complaints, nevertheleſs it certainly given in beer is much better, and anſwers a double purpoſe, both as medicine and drink, comes full as cheap as common ſmall beer in Europe, and greatly cheaper both in the Eaſt and Weſt Indies, beſides a vaſt advantage in ſtowage, as nothing is neceſſary to take there, but the Eſſence, of which one gallon will make 250 gallons of the Beer, and allowing each man a [redacted] of beer a day, will coſt in either Indies no more than about 8s. 6d. to 9s. 8d. per man per year, and in Europe about 10s. to 11s. per man per year, ſo that ſuppoſing each man to be 8 months in actual ſervice, 6 months of which it will be neceſſary to give him Spruce beer, it will not coſt above 7s. to 8s. per year per man to keep them in health, and allowing every man 2 quart a day, from 8s. to 10s. and in time of peace much leſs.

Quart.

Quantum of Stowage.

Leſs than 8 gallons of all the neceſſary materials makes one butt of beer.

It muſt be made freſh twice in twenty-four hours, and to cool the Wort as ſoon as poſſible after the Eſſence is diſſolved.

When a few pounds of the Eſſence is only to be uſed, it may be cut out of the caſk with a chiſel. When a caſk is to be uſed at a time, the whole of the Eſſence contained in the caſk may be ſeparated from it in a ſolid body. If the head is taken out and the hoops looſened, it may then be placed in a clean tub, large enough for the purpoſe, broken to pieces with a hatchet, &c. and diſſolved.

Quantum of ſtowage.

15 gallons of Eſſence of Malt will make one butt of Wort. But as this Wort is only uſed as a medicine, conſequently its whole bulk is extra ſtowage as well as an extra waſte of water.

To ſupply 100 Men 1 Month on the Voyage giving each Man a Quart of Spruce Beer p.r Day will require ——

13 lb ℔s Spruce 6/ - 3.18 -

3.2.16 - Moloſſes — 3.12.6

7.10.6

Saved by the uſe of Spruce

To Supply 100 Men one Month with Wort giving each Man a Quart p.r day will require —

700 ℔s Malt @ 26.5 —

7.10.6

p.r Month — 18.12.6

Comparative of Expence between the Supply of Spruce Beer and Rum.

To ſupply a firſt rate, 850 men, giving each man 2 quarts a day, will require 237lb. of			
Eſſence	71	2	0
Do. 76C. of Moloſſes	87	8	0
Yeaſt 12lb.	1	4	
£.	159	14	0

Stowage.

The materials to make the above will take the room or ſtowage of 714 gallons.

Health.

In upwards of 100 voyages to the Eaſt Indies and back, where the ſhips have been ſupplied with Spruce, I have not known two men loſt by the ſcurvy, and very few by fevers or bilious diſorders.

To ſupply a firſt rate, 850 men, giving each man half a pint of rum per day, will require 1085 gallons ¾ at 5s.	372	2	6

Stowage.

The ſpirit takes up the ſtowage of 1485 gallons ¾, which is more than double the ſtowage of Spruce.

Health.

I believe it is generally acknowledged that rum aſſiſts the ſcurvy, and brings on rather than ſtop that dreadful diſorder, that cauſes ſuch daily ravages on board moſt ſhips that are long at ſea.

That your Memorialiſt moſt humbly prays your Lordſhips to take the premiſes into conſideration; that, as your Memorialiſt and the ſaid Dr. H. Taylor have always had the moſt flattering hopes that the great merit of the Eſſence would moſt undoubtedly gain it an introduction into the navy, and being encouraged to ſuch hopes by moſt of the officers of both Army and Navy they have had the honour to converſe with on the ſubject, have been at great expence to have a ſufficient ſtock by them to anſwer the demands of Government if called upon, the loſs by ſuch diſappointment has been very heavy, to the great hurt of their fortunes; nevertheleſs, ſo conſcious are they of the ſucceſs of the Spruce Beer, if fairly made uſe of, that he is willing to ſupply the

Navy with any quantities for experiments that your Lordſhips chuſe to order; and as he by no means wiſhes to put the nation to unneceſſary expence, he is willing to take back whatever is not uſed, in caſe it does not anſwer the end propoſed.

And your petitioner, as in duty bound, ſhall ever pray.

As I do not know what Quantity of the Lbs of Malt is given daily I shall Calculate as giving the same Quantity as they — give of the Spruce Beer —

To Supply 100 Men one Month in India giving each Man a Quart of Spruce Beer pr. day will require —

130 Lbs of Lbs of Spruce at 6/ pr. Ct.	3.18.0
2.3. Lbs of Brown Sugar at 2 pr Ct @ 10/	1.8.9
	5.6.9

FINIS.

The freight of 130 Tons —

But to supply the same Number of Men for the same time giving each Man a Quart of the Malt Wort pr. Day will require

700 Lbs of Lbs of Malt @ 9/ pr Ct.	26.5.0

Consequently 700 Lbs Freightage —

So that there will be saved by sending the Lbs Spruce to India as under —

	Money	Freight
Lbs Malt	26.5.0	700 Lbs
Lbs Spruce	5.6.9	13 —
Saved each	20.18.3	Freight 687

Beside a very great labour in breaking & Dissolving the Lbs of Malt —

Laude 12/33